§103(a) as being unpatentable over Murayama in view of U.S. Patent No. 5,262,871 to Wilder, et al. ("Wilder"). The Examiner rejected Claims 9-13 under 35 U.S.C. §103(a) as being unpatentable over Murayama in view of U.S. Patent No. 6,133,954 to Jie, et al. ("Jie"). The Examiner rejected Claims 17, 19, 25, and 27 under 35 U.S.C. §103(a) as being unpatentable over Murayama. The Examiner rejected Claim 20 under 35 U.S.C. §103(a) as being unpatentable over Murayama in view of Sano et al. (hereinafter "Sano"). The Examiner rejected Claims 24, 37 and 42 under 35 U.S.C. §103(a) as being unpatentable over Murayama in view of U.S. Patent No. 5,541,654 to Roberts. The Examiner rejected Claim 26 under 35 U.S.C. §103(a) as being unpatentable over Murayama in view of U.S. Patent No. 5,640,202 to Kondo, et al. ("Kondo").

Discussion of Claim 1

In rejecting independent Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama anticipates the claimed invention. In particular, the Examiner asserted that Murayama discloses a "color imaging system providing on-the-fly color interpolation using analog signals to reconstruct colors during sensor readout, the imaging system comprising: an array of pixel sensor elements wherein at least part of the array is arranged in rows and columns (Figure 1); a color filter including a plurality of color filter components organized in a predefined pattern, the color filter overlaying at least a portion of the array (Figure 2); a readout control circuit (Column 2, lines 47-57); an array controller (Column 2, Lines 47-57) coupled to the array, wherein the readout control circuit and the array controller are configured to simultaneously read out values for a group of pixel elements within a first portion of the array, including at least two pixel elements from two different rows and two pixel elements from two different columns and to reconstruct color components for at least a first pixel sensor element and a second pixel sensor element using color information from other pixels elements within at least the first portion of the array while the readout control circuit is reading the first portion of the array (Column 3, Lines 33-59)."

Applicant respectfully traverses the Examiner characterization of Murayama and therefore the Examiner's rejection of Claim 1. In contrast to the Examiner's assertion, Murayama fails to teach or suggest a "color imaging system providing on-the-fly color interpolation," as recited by Claim 1. Indeed, Murayama fails to teach a color imaging system that provides any form of interpolation. If the Examiner's maintains the rejection of Claim 1,

Applicant respectfully requests the Examiner to explain with particularity the Examiner's assertion that Murayama discloses a color imaging system that provides color interpolation.

Murayama further fails to teach or suggest that a readout control circuit and an array controller configured to "reconstruct color components for at least a first pixel sensor element and a second pixel sensor element using color information from other pixels elements within at least the first portion of the array while the readout control circuit is reading said first portion of the array" as recited by Claim 1. Indeed, Murayama fails to even disclose reconstructing color components for at least a first pixel sensor element and a second pixel sensor element using color information from other pixels elements. Instead, Murayama, as Column 3, Lines 33-59, merely discloses that

The photoelectric conversion elements 2A1, 2A2, and 2A3 ; 2B1, 2B2, and 2B3 ; and 2C1, 2C2, and 2C3 are respectively and corresponding provided with vertical switching devices 3A1, 3A2, and 3A3 ; 3B1, 3B2, and 3B3 ; and 3C1, 3C2, and 3C3. The respective gates of the A-group vertical switching devices 3A1, 3A2, and 3A3 are connected to the same vertical selection line 5A. The respective gates of the B-group vertical switching devices 3B1, 3B2, and 3B3 are connected to the same vertical selection line 5B; and the respective gates of the C-group vertical switching devices 3C1, 3C2, and 3C3 are connected to the same vertical selection line 5C. Therefore, the vertical switching devices in each group, for example, the vertical switching devices 3A1, 3A2, and 3A3 in the group A, are simultaneously opened/closed. At this time, since the respective drains of the vertical switching devices in each group is connected to the same vertical signal line, the sum of the respective outputs of the photoelectric conversion elements belonging to the group is generated on the vertical signal line. That is, for example, the respective drains of the vertical switching devices 3A1, 3A2, and 3A3 in the group A are connected to the same vertical signal line 4A, so that the sum of the respective outputs of the photoelectric conversion elements 2A1, 2A2, and 2A3 constituting the group A is generated on the vertical signal line 4A. This applies to the other groups B and C.

Thus, rather than disclosing a system that performs interpolation, or reconstructing color components for a first pixel sensor element using color information from other pixels elements, Murayama merely discloses summing the outputs for each color in each group. Murayama does not disclose how or if the summed outputs are further processed, and certainly fails to disclose a color imaging system providing on-the-fly color interpolation. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

The Examiner also rejected Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Suzuki. The Examiner asserted that Suzuki discloses "a color imaging system providing on-the-

fly color interpolation using analog signals to reconstruct colors using sensor readout, comprising an array of pixel sensor elements wherein at least part of the array is arranged in rows and columns (Figure 1)." Applicant respectfully traverses the Examiner's characterization of Suzuki. A careful examination of Figure 1 of Suzuki and the corresponding text at Column 3, Line 42 to Column 4, Line 5, completely fails to disclose a color imaging system providing on-the-fly color interpolation, much less a color imaging system providing on-the-fly color interpolation using analog signals to reconstruct colors using sensor readout.

The Examiner further argued that Suzuki, in Figure 6 and at Column 6, Lines 61-66, discloses "the readout control circuit and the array controller are configured to simultaneously read out values for a group of pixel elements within a first portion of the array, including at least two pixel elements from two different rows and two pixel elements from two different columns and to reconstruct color components for at least a first pixel sensor element and a second pixel sensor element using color information from other pixels elements within at least the first portion of the array while the readout control circuit is reading the first portion of the array." Applicant further traverses this characterization of Suzuki.

Suzuki, in Figure 6 and at Column 6, Lines 61-66, recites:

FIG. 6 is a schematic diagram illustrating the operating principle of the single-pixel measuring unit. The same color charge signals stored in the photoelectric conversion units within the single-pixel measuring unit 2b are simultaneously read and added together by an adder. In particular, the signals read out of three blue photoelectric conversion units 5 are added by an adder 180a, the signals read out of three green photoelectric conversion units 4 are added by an adder 180b, and the signals read out of three red photoelectric conversion units 3 are added together by an adder 180c. The adders 180a to 180c may be provided for each row or column of pixels, instead of each pixel. In addition, the adders may be mounted outside of the color image sensor 2.

Thus, Suzuki merely discloses adding photoelectric conversion units of the same color together. Suzuki fails to teach or suggest "the readout control circuit and the array controller are configured to ... reconstruct color components for at least a first pixel sensor element and a second pixel sensor element using color information from other pixels elements" as recited by Claim 1. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Suzuki.

Discussion of Claim 3

In rejecting Claim 3 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama discloses that "the readout control circuit is adapted to perform color interpolation using two pixel sensor elements read out in parallel (Column 3, Lines 33-59)." In contrast to the Examiner's assertion, Murayama, which fails to disclose a readout control circuit that performs any kind of interpolation, fails to teach or suggest that "the readout control circuit is adapted to perform color interpolation using two pixel sensor elements read out in parallel," as recited by Claim 3. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 3 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 7

In rejecting Claim 7 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama discloses that the pixel elements form a portion of a charge coupled device. The Examiner argued that the Murayama device may considered to be charge coupled in that charges from plural sensor elements are coupled together upon readout. Applicant respectfully traverses the Examiner's characterization of Murayama and therefore the rejection of Claim 7. The Examiner's interpretation of the phrase "charge coupled device" is not in accordance with how the phrase would be interpreted by one of ordinary skill in the art. When not otherwise defined by applicant in the specification, the words of a claim must be given their plain meaning. Manual of Patent Examining Procedure (MPEP), Section 2111.01 In other words, they must be read as they would be interpreted by those of ordinary skill in the art. In re Sneed, 710 F.2d 1544, 218 USPQ 385 (Fed. Cir. 1983). It is appropriate to compare the meaning of terms given in technical dictionaries in order to ascertain the accepted meaning of a term in the art. In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

The phrase "charge coupled device" is defined in one technical dictionary as a "self-scanning semiconductor imaging device that utilizes MOS (metal-oxide semiconductor) technology, surface storage and information transfer. It consists basically of a metal insulator semiconductor (MIS) capacitor, majority carriers being attracted to the semiconductor-insulator interface when a negative voltage is applied to the metal. Reversal of the voltage polarity creates a region depleted of majority carriers, an empty potential well. Minority carrier charge representing information accumulates in the well, partially filling it. Information is transferred from one well to another." Photonics Industry Dictionary, Laurin Publishing 1996-2002 .

Murayama, which fails to even mention charge coupled devices, and fails to teach or suggest that information is transferred from one well to another well, fails to anticipate the invention as claimed by Claim 7. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 7 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 8

In rejecting Claim 8 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama discloses that "the pixel sensor elements form a portion of a complementary metal oxide semiconductor device (Column 1, Lines 15-18)." In contrast to the Examiner's assertion, Murayama, at Column 1, Lines 15-18, only discloses a MOS image sensor 10, not a complementary metal oxide semiconductor (CMOS) device. A CMOS device includes both PMOS and NMOS devices. Indeed, Figures 1 and 2 of Murayama also only disclose the use of MOS, as opposed to CMOS devices. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 8 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 21

In rejecting Claim 21 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama discloses that "the readout control circuit and the array controller read out a first set of pixel sensor elements and then read out a second set of pixel sensor elements, such that the second set of pixel sensor elements only partly overlaps a portion of the first set of pixel sensor elements (See Figure 2 and Column 3, lines 33-59 where the pixels of each color partially overlap each other)."

Applicant respectfully traverses the Examiner's characterization of Murayama and therefore the rejection of Claim 21. Groups A, B, and C disclosed by Murayama do not overlap as each contains different photoelectric conversion elements. Murayama thus fails to teach or suggest that a readout control circuit and an array controller read out a first set of pixel sensor elements and then read out a second set of pixel sensor elements, such that the second set of pixel sensor elements only partly overlaps a portion of the first set of pixel sensor elements. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 21 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 28

In rejecting Claim 28 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama discloses "a camera coupled to the readout control circuit (Column 1, Lines 11-13)." However Murayama, at Column 1, Lines 11-13, merely recites "[t]he present invention generally relates to a solid state image pickup element, and particularly relates to a solid state image pickup element for a color picture." Thus, rather then disclosing "a camera coupled to the readout control circuit" or even a camera, Murayama merely discloses a solid state image pickup element for a color picture.

The phrase "camera" is defined in one technical dictionary as a "device used in photography for recording images. For still images, it consists of a lens system, a photographic film (or alternative means of recording electronically) and a system for controlling the exposure of the film by timing the movement of a shutter. For moving images, the device must either record onto moving film (a cine camera) or use an electronic means of encoding and storing the images (a television camera, digital camera or video camera)." The New Penguin Dictionary of Science, M. J. Clugston 1998. Murayama, which, for example, fails to even disclose a lens, fails to teach or suggest a camera coupled to a readout control circuit. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 28 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 29

In rejecting independent Claim 29 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserted that Murayama anticipates the claimed invention. In particular, the Examiner asserted that Murayama discloses a "method of interpolating color components of an array of pixel sensor elements, the method comprising reading a first rectangular portion of an array of pixel sensor elements simultaneously (Column 2, Lines 47-57), wherein the first rectangular portion includes pixel sensor elements from at least two array columns and two array rows (for instance, pixels 00, 01, 10 and 11 of Figure 2); reading a second rectangular portion of the array of pixel sensor elements (for instance, pixels 21, 22 and 23 of Figure 2), wherein the second portion partly overlaps the first portion (See Figure 2); and reconstructing color components using interpolation for at least a third portion of the array while the third portion of the array is being read (Column 3, lines 33-59)."

Applicant respectfully traverses the Examiner's characterization of Murayama. As discussed above with respect to Claim 1, Murayama fails to teach or suggest performing any type

of interpolation, much less the claimed method of interpolation. Murayama merely discloses summing the outputs for each color in a group of photoelectric conversion elements, but does not disclose how or if the summed outputs are further processed, and certainly fails to disclose a color imaging system providing on-the-fly color interpolation.

In addition, it is not clear what pixels the Examiner is referring in the rejection with respect to pixels 00, 01, 10, 11 21, 22 and 23. Neither Figure 2 nor the corresponding text of Murayama discloses pixels 00, 01, 10, 11 21, 22 and 23. Applicant assumes that in the Examiner's nomenclature, the first digit refers to the row of unit 1 and that the second digit refers to the column of unit 1 and so pixel 00 is the top leftmost photoelectric conversion element. However, using this nomenclature, it is not apparent what photoelectric conversion element pixel 23 would correspond to. Nonetheless, based on this assumption, Applicant notes that, with respect to the pixels that the Examiner asserts corresponds to the first rectangular portion, pixels 00, 01 belong to group A, pixel 10 belongs to group B, and pixel 11 belongs to group C. While Murayama discloses that all vertical switching devices within a group, such as switching devices 3A1, 3A2, and 3A3, are simultaneously opened/closed at the same time, Murayama fails to teach or suggest that all switching devices of all groups are simultaneously opened/closed at the same time. Thus, the pixels 00, 01, 10, 11 do not correspond to the claimed first rectangular portion. Therefore, Murayama fails to teach or suggest "reading a first rectangular portion of an array of pixel sensor elements simultaneously."

Still further, Murayama, which fails to disclose reconstructing color components, fails to teach or suggest "reconstructing color components using interpolation for at least a third portion of the array while the third portion of the array is being read" as claimed. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 29 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claims 31-32

In rejecting Claims 31 and 32 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserts that Murayama discloses at Column 2, Lines 33-59, that reconstructing color components using interpolation is performed in real time and in the analog domain. Applicant assumes that the Examiner intended to refer to Column 3 Lines 33-59. However, because Murayama fails to disclose reconstructing color components, and further fails to disclose reconstructing color components using interpolation, Murayama fails to teach or

suggest that reconstructing color components using interpolation is performed in real time or in the analog domain. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claims 31 and 32 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 34

With respect to the Examiner's rejection of Claim 34 under 35 U.S.C. § 102(b) as being anticipated by Murayama, because Murayama does not disclose reading first and second rectangular portions of pixel sensor elements, as discussed above with respect to 29, Murayama fails to teach or suggest that an overlapped portion is used to interpolate color components in both the first rectangular portion and the second rectangular portion of pixel sensor elements. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 34 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 35

With respect to Claim 35 under 35 U.S.C. § 102(b) as being anticipated by Murayama, the Examiner asserts that Murayama discloses that the "act of reading includes reading a first set of pixel sensor elements in an array row (for instance, reading the first elements of each group of pixels in the second row of Figure 2 for the production of green signal information in each of the groups along the row), skipping a second set of pixel sensor elements in the array row ... and reading a third set of pixel sensor elements in the array row ..., the method further comprising summing a plurality of pixel sensor value readouts associated with a corresponding plurality of pixel sensor elements associated with a first color to produce a first color component corresponding to a first skipped pixel sensor element (See Column 3, lines 33-59 and note that the green signal is a summed signal and is skipped in the production of a red signal)." Applicant respectfully traverses this characterization of Murayama.

Even assuming, arguendo, that Murayama discloses that the green signal is a summed signal and is skipped in the production of a red signal, Murayama does not disclose that the summed signal is used to produce a color component corresponding to the red pixel element. Indeed, Murayama merely discloses summing the green pixel outputs, such as that of 3B2 and 3B3 of the second row, and completely fails to disclose that the summed green output is used to produce a first color component corresponding to the red pixel element 2C1, by way of example. Thus, Murayama fails to teach or suggest summing a plurality of pixel sensor value readouts

associated with a corresponding plurality of pixel sensor elements associated with a first color to produce a first color component corresponding to a first skipped pixel sensor element.

Murayama similarly fails to teach or suggest "summing a plurality of values associated with a plurality of pixel sensor elements associated with a second color to produce a second color component corresponding to a second skipped pixel sensor element" as recited by Claim 35. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 35 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 38

With respect to the rejection of Claim 38 under 35 U.S.C. § 102(b) as being anticipated by Murayama, as similarly discussed above with respect to Claim 1, Murayama, which fails to disclose performing interpolation, further fails to teach or suggest "an interpolation circuit configured to receive said first output signal and said second output signal, wherein said interpolation circuit provides an interpolation signal on the fly based on at least said first analog output signal and said second analog output signal," as recited by Claim 38. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 38 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 39

With respect to the rejection of Claim 39 under 35 U.S.C. § 102(b) as being anticipated by Murayama, as similarly discussed above with respect to Claim 1, Murayama, which fails to disclose performing interpolation, further fails to teach or suggest "generating an analog interpolation signal, the analog interpolation signal used to recreate a color value in real-time for a location situated between the first and second pixel elements based on the first analog signal and the fourth analog signal" as recited by Claim 39. The Examiner appears to argue that the output of the first green pixel element is the first analog signal, the second green pixel element is the second analog signal, and that the summed red, green and blue signals are the claimed fourth analog signal. Even accepting, arguendo, that Examiner's interpretation, Murayama fails to disclose generating any analog interpolation signal, much less an analog interpolation signal using the summed red, green and blue signals and the output of the first green pixel element to recreate a color value in real-time for a location situated between the first and second green pixel element. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 39 under 35 U.S.C. § 102(b) as being anticipated by Murayama.

Discussion of Claim 40

With respect to the rejection of Claim 40 under 35 U.S.C. § 102(b) as being anticipated by Murayama, as similarly discussed above with respect to Claim 39, Murayama, which fails to disclose performing interpolation at all, further fails to teach or suggest "generating an image based on at least the first analog signal, the second analog signal, and the analog interpolation signal."

Discussion of Claim 4

In rejecting Claim 4 under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Smith, the Examiner argued that Suzuki discloses "a first analog storage unit (Figure 6; adder 180b that stores a signal from a green output line); a second analog line storage unit (Figure 6; adder 180a that stores a signal from a red output line) that stores a third line readout from the array." Applicant respectfully traverses the Examiner's characterization of Suzuki. In contrast to the Examiner's assertion, an adder is not an analog storage unit. Thus, adder 180b does not store a signal from a green output line. Suzuki, in describing Figure 6, at Column 6, Lines 66 to Column 7, Line 3, recites that "the signals read out of three blue photoelectric conversion units 5 are added by an adder 180a, the signals read out of three green photoelectric conversion units 4 are added by an adder 180b, and the signals read out of three red photoelectric conversion units 3 are added together by an adder 180c." Nowhere does Suzuki teach or suggest that the adders 180a, 180b, and 180c are analog storage units as claimed. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 4 under 35 U.S.C. § 103(a).

Discussion of Claim 5

In rejecting Claim 5 under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Smith and further in view of Takatori, the Examiner admits that neither Suzuki nor Smith disclose analog storage units are capacitors. Nonetheless, the Examiner argues that such is a common design for an adder, as disclosed in Takatori, and that "it would be obvious to one of ordinary skill in the art at the time of the invention to configure the Suzuki using capacitors since such is common for an adder circuit." Applicant respectfully traverses the rejection.

As discussed above with respect to Claim 4, Suzuki does not disclose that adder units include analog storage units. Further, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so. See In re Fine, 837 F.2d 1071 (Fed. Cir. 1988);

Manual of Patent Examining Procedure (MPEP), Section 2143.01, page 2100-111. The mere fact that a reference can be modified does not render the resultant combination, an adder with a capacitor analog storage element, obvious unless the prior art suggests the desirability of the combination. The Examiner has failed provide such a motivation.

Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 5 under 35 U.S.C. § 103(a).

Discussion of Claims 9-12

In rejecting Claim 9 under 35 U.S.C. §103(a) as being unpatentable over Murayama in view of Jie, the Examiner admits that Murayama fails to disclose the use of programmable gain amplifiers for modifying the output level of each color and that Murayama instead discloses that shift register timing or light shielding opening sizes is used. Nonetheless, the Examiner argues that it is well known in the art to use programmable amplifiers to modify the respective color signal outputs of an image sensor, as disclosed by Jie. The Examiner further argues that the use in Murayama of amplifiers such as those disclosed in Jie would increase the functionality of the weighting operation by enabling variable control of the operation. The Examiner then argues that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide Murayama a programmable amplifier for each color signal in order to increase the functionality of the device.

Applicant respectfully traverses the Examiner's rejection. To be a valid combination, the proposed modification of Murayama cannot change the principle of operation of Murayama. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); MPEP Section 2143.01.

Murayama, as Column 4, Lines 15-24, recites:

If the shift register provided with three stages for every unit is arranged to generate pulses of different widths from each stage, it is possible to thereby assign weights different from each other on the three colors. Further, if an arrangement is made such that openings of a light shielding layer are made different from each other for the respective photoelectric conversion elements, it is possible to put weights different from each other on the three colors even when equal width pulses are applied to the switching devices respectively.

Thus, the weighting operation of Murayama controls the amount of light each photoelectric conversion element gathers. Performing the modification as suggested by the Examiner would change the principle of operation of Murayama by weighing the summed outputs of several photoelectric conversion elements rather than controlling the amount of light each photoelectric conversion element gathers. Therefore, the teachings of Murayama and Jie are not sufficient to render the Claim 9, and hence Claims 10-12, prima facie obvious. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claims 9-12 under 35 U.S.C. § 103(a).

Discussion of Claims 17, 19, 25, and 27

In rejecting Claim 17 under 35 U.S.C. §103(a) as being unpatentable over Murayama, the Examiner admitted that Murayama fails to disclose using a filter with a Bayer pattern. Nonetheless, the Examiner takes Official Notice that a Bayer pattern is very well known in the art as an alternative configuration to that used in Murayama. The Examiner argued that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the Bayer pattern in Murayama as a well known alternative design. Applicant respectfully traverses the Examiner's rejection of Claim 17.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so. See In re Fine, 837 F.2d 1071 (Fed. Cir. 1988); MPEP, Section 2143.01. A statement that modifications of the prior art to meet the claimed invention would have been " well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300 (Bd.Pat. App. & Inter. 1993); MPEP, Section 2143.01. Because the Examiner has failed to provide an objective reason to combine the Bayer pattern with the filter disclosed by Murayama, the Examiner has failed to make a prima facie case of obviousness. Applicant therefore respectfully requests the Examiner to withdraw the rejection to Claim 17 under 35 U.S.C. § 103(a). Applicant similarly traverses the Examiner's rejection of Claims 19, 25 and 27, and therefore respectfully requests the Examiner to withdraw the rejection to Claim 19, 25 and 27 under 35 U.S.C. § 103(a).